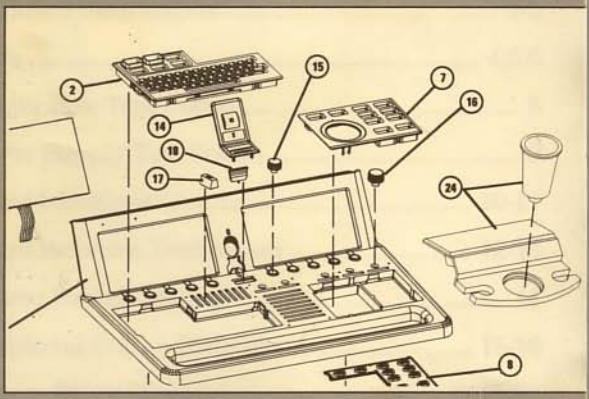
~~TIFFANY TICE~~

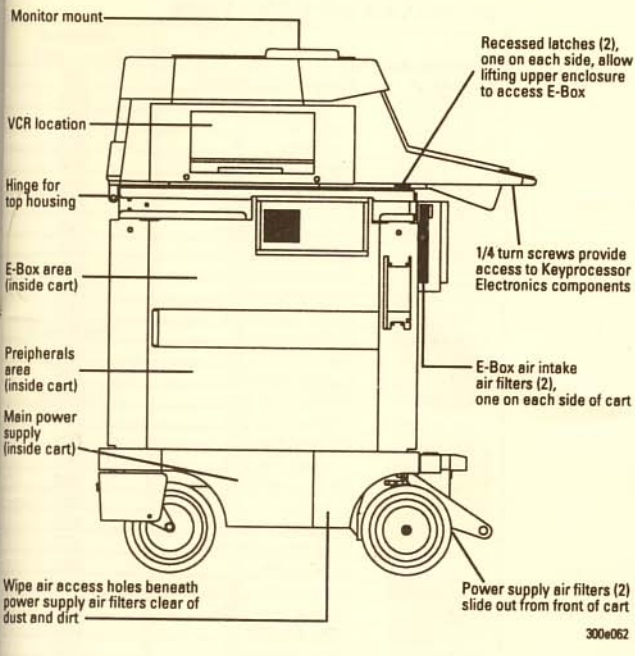
DAVID MEADE

HEWLETT® PACKARD

# M2406/7A SONOS 2000/2500

# Quick Reference Service Guide




Monitor mount
Recessed latches (2), one on each side, allow lifting upper enclosure to access E-Box
VCR location
Hinge for top housing
1/4 turn screws provide access to Keyprocessor Electronics components
E-Box area (inside cart)
Preipherals area (inside cart)
E-Box air intake air filters (2), one on each side of cart
Main power supply (inside cart)
Wipe air access holes beneath power supply air filters clear of dust and dirt
Power supply air filters (2) slide out from front of cart
300e062

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## PC BOARD INFORMATION

| New/Exchange Part # | | Minimum | Rev A.1.x/A.2 Date Code @ | Rev B.1.2/B.2 |
|---|---|---|---|---|
| 77100-60140 | Scanner Motherboard | 3401 | ■ | ■ |
| 77100-60250/8 | Distribution | 3505 | ■ | ■ |
| 77100-60330/8 | Front End | 3409 | ■ | ■ |
| 77100-60440/8 | Fine Delay | 3339 | ■ | ■ |
| 77100-60520/8 | Coarse Delay/200ns | 3130 | ■ | T |
| 77100-60550/8 | Coarse Delay/200ns | 3408 | | ■ |
| 77100-60530/8 | Coarse Delay/100ns | 3130 | ■ | T |
| 77100-60560/8 | Coarse Delay/100ns | 3408 | | ■ |
| 77100-60540/8 | Coarse Delay/Flt Tp | 3130 | ■ | T |
| 77100-60570/8 | Coarse Delay/Flt Tp | 3408 | | ■ |
| 77100-60660/8 | Image Detector #1 | 3412 | ■ | ■ |
| 77100-60670/8 | Image Detector #2 | 3412 | ■ | ■ |
| 77100-60840/8 | Digital control | 3546 (note 3) | ■ | ■ |
| 77100-60930/8 | TGC | 3310 | ■ | ■ |
| 77100-61180/8 | Doppler Detector | 3228 | ■ | ■ |
| 77100-61210/8 | PV/Omni Pwr Sup | 3239 | ■ (note 1) | |
| 77100-61220/8 | PV/Omni Pwr Sup | 3541 | ■ (note 1) | ■ |
| 77100-61230/8 | PV/Omni Pwr Sup | 3608 | ■ | ■ |
| 77100-62700/8 | Transmit Pwr Sup | 3402 | ■ | ■ |
| 77100-67500 | Fan Control/Rear | 2834 | ■ | ■ |
| 77100-62740 | Rear I/O | 3403 | ■ | ■ |
| 77100-65010 | Scan Conv. Motherbd | 3050 | ■ | |
| 77160-65030 | Scan Conv. Motherbd | 3527 | ■ | ■ |
| 77100-65150/8 | Scanner I/O | 3524 | ■ | ■ |
| 77160-65160/8 | Scanner I/O | 3549 | | ■ |
| 77100-65210/8 | Doppler Processor | 3406 | ■ | ■ |
| 77100-65310/8 | DSR (note 2) | 3140 | ■ | ■ |
| 77100-65440/8 | Flow Processor | 3408 | ■ | ■ |
| 77160-65510/8 | R-Theta | 3428 | ■ | |
| 77100-65530/8 | R-Theta | 3544 | | ■ |
| 77100-65610/8 | Image Memory | 3040 | ■ | |
| 77160-65630/8 | Image Memory | 3544 | | ■ |
| 77100-65700/8 | PVT | 3434 | ■ | ■ |
| 77100-65800/8 | BW CLR | 2914 | ■ | N/A |
| 77100-65900/8 | Color CLR | 2914 | ■ | N/A |
| 77100-65810/8 | Combined CLR | 3636 | | ■ |
| 77100-66010/20/8 | Videol/O/ NTSC/PAL | 3312 | ■ | ■ |
| 77100-66280/8 | Processor Graphics | 3523 | ■ | ■ |
| 77100-66300/8 | Strip Chart | 3325 | ■ | ■ |
| 77100-66380/8 | AQ/Split | 3405 | ■ | ■ |
| 77100-67500 | Fan Control-Front | 2834 | ■ | ■ |
| 77100-66590 | AQIF Dataport | N/A | ■ | ■ |
| 77921-60100/8 | Keyscanner/Audio | 3527 | ■ | ■ |
| 77921-60200 | Main I/O | 3402 | ■ | ■ |
| 77921-60240 | Filter Board, 12V | N/A | ■ | ■ |
| 77921-60300 | Physio I/O | 3351 | ■ | ■ |
| 77921-60400 | System I/O | 3341 | ■ | ■ |
| 77921-60600 | Physio, Entended | 3550 (note 3) | ■ | ■ |
| 77921-60620 | Physio, Entended | 3621 | ■ | ■ |
| 77921-60610 | Physio, ECG/Aux only | 3550 (note 3) | ■ | ■ |
| 77921-60630 | Physio, ECG/Aux only | 3621 | ■ | ■ |
| 77921-61300/8 | Qwerty Board | 3606 | ■ | ■ |
| 77921-61400 | Function Keyboard | 3606 | ■ | ■ |
| 77921-61700 | Qwerty LED Daughterbrd | 3330 | ■ | ■ |
| 77921-61800 | Fun. LED Daughterbrd | 3330 | ■ | ■ |
| 77921-80030 | Touch Screens L & R | N/A | ■ | ■ |
| 2090-0330 | EL Panels Left or Right | N/A | ■ | ■ |
| 1818-5622 | SIMM Mem. Module | N/A | | ■ |
| C2748-69501 | (exchange) 32M SIMM | N/A | | ■ |
| 1818-5623 | SIMM Mem. Module 8M | N/A | | ■ |

@ Minimum Date code is to be used in determining board revision levels to be used in kits and as replacement parts during repairs. It does not mean that a working board earlier than this date code should be removed from a system.

■ = Can put this board in this system.
T = Can use this board for troubleshooting dead systems, but NOT IQ problems. Must not be left in system.

Note 1: 77100-61210 works only with A.0 & A.1.2. 77100-61220 and 77100-61230 are interchangeable.
Note 2: Proper DSR EPROMS must be used. Varies depending on rev. level.
Note 3: This is the minimum date code that should be used with this board in any B.0 system.

## PARTS

### VCRS - Exchange

| | |
|---|---|
| 77612A Panasonic 7300 NTSC | 77612-68000 |
| 77622A Panasonic 7330E PAL | 77622-68000 |
| 77613A Panasonic 7350 NTSC | 77613-68000 |
| 77623A Panasonic 7350E PAL | 77623-68000 |
| 77615A Panasonic MD 830 NTSC | 77615-68000 |
| 77625A Panasonic MD 830E PAL | 77625-68000 |

### PRINTERS, DSRS, MONITOR - Exchange

| | |
|---|---|
| 77560A Sony UP870 B/W NTSC | 77560-68000 |
| 77565A Sony UP860 B/W PAL | 77565-68000 |
| 77580A Sony UP910 B/W NTSC | 77580-68000 |
| 77585A Sony UP910P B/W PAL | 77585-68000 |
| 77530A Sony UP3000 Color NTSC | 77530-68000 |
| 77530B Sony UP1850MD Color NTSC | 77530-68100 |
| 77535A Sony UP3000P Color PAL | 77535-68000 |
| 77535B Sony UP1850P Color PAL | 77535-68100 |
| 77550B Sony UP5200 Color NTSC | 77550-68001 |
| 77550C Sony UP5600MD Color NTSC | 77550-68200 |
| 77555C Sony UP5600MDP Color PAL | 77555-68200 |
| 77560B Sony UP890 Printer B&W | 77560-68200 |
| 77450B DSR (2X drive) | 77450-68100 |
| 77450C DSR (4X drive) | 77450-68200 |
| Monitor (12inch) | 77921-68000 |

### TRANSDUCERS - Exchange

**Sector**

| | |
|---|---|
| 21202A 2.0/2.5 MHz | 21202-68000 |
| 21205C 3.5 MHz | 21205-68200 |
| 21210B 5.0 MHz Med. | 21210-68100 |
| 21211B 5.0 MHz Short | 21211-68100 |
| 21215A 2.5/2.0 MHz w/Dyn. Elev. | 21215-68000 |
| 21242A 3.5/2.7 MHz | 21242-68000 |
| 21243A 3.5/2.7 MHz w/Dyn. Elev. | 21243-68000 |
| 21245A 5.0/3.7 MHz w/Dyn. Elev. | 21245-68000 |
| 21246A 5.0 MHz Wide | 21246-68000 |
| 21275A 7.5/5.5 MHz | 21275-68000 |

**Linear**

| | |
|---|---|
| 21253A 5/3.5/2.5 MHz CLA | 21253-68000 |
| 21253B 5/3.0/2.5 MHz CLA | 21253-68100 |
| 21255A 4.5 MHz | 21255-68000 |
| 21255B 4.5/3.5 MHz Trapezoidal | 21255-68100 |
| 21258A 7.5 MHz | 21258-68000 |
| 21258B 7.5/5.5 MHz Trapezoidal | 21258-68100 |
| 21273A 7.5/5.0/3.5 MHz CLA | 21273-68000 |
| Standoff | 21286-60060 |
| Standoff Refill | 21286-60020 |

**TEE**

| | |
|---|---|
| 21363A 5.0 MHz Biplane | 21363-68000 |
| 21364A 5.0/3.7 MHz Omni | 21364-68000 |
| 21365A 5.0 MHz Mini | 21365-68000 |
| 21366A 7.5/5.5 MHz Biplane Ped. | 21366-68000 |
| 21367A 6.2/5.0 MHz Omni II | 21367-68000 |

**Non-imaging**

| | |
|---|---|
| 21221A 1.9 MHz | 21221-60061 |
| 21223A 5 MHz CW | 21223-60060 |
| 21228A 1.9 MHz PW TCD | 21228-60060 |



### PRINTER SUPPLIES

| | |
|---|---|
| 77510A Kowa Thermal Paper | 40479A |
| 77530/5A Color Thrml Prntr Paper | 13993A |
| 77530B/5B Color Paper (500 sheets) | 21002A |
| 77530B/5B B/W Paper (500 sheets) | 21003A |
| 77530A/535A Paper Tray | A-8262-176-ASON |
| 77530A/535A Door, Ribbon Compart | X-3745-701-1SON |
| 77530B Paper Tray | A-8310-002-ASON |
| 77530B Print Output Tray | 3-183-227-01SON |
| 77535B Paper Tray | A-8310-002-DSON |
| 77535B Print Output Tray | 3-183-227-02SON |
| 77550/555A/B Color Thrml Prntr Paper | 13991A |
| 77550/555A/B B/W Thermal Paper | 13992A |
| 77550A/555A Paper Tray Assembly | A8261-099-ASON |
| 77550A/555A Paper Eject Tray | 3725-780-01SON |
| 77550B Paper Tray Assembly | A-8261-250-ASON |
| 77550C/555C Color Printer Paper | 21006A (1 box) |
| 77550C/555C Color Printer Paper | 21007A (1 case) |
| 77550C/555C Paper Tray Assembly | A-8278-133-BSON |
| 77550C/555C Paper Eject Tray | 3-685-292-01SON |
| 77550C/555C Ink Ribbon Holder | A-8278-124-ASON |
| 77560B B/W Printer Paper (5 rolls) | 21005A |
| 77560/565A/B B/W Printer Paper | M2236A (sm) |
| 77560/565A Cleaning Sheet | 243049501-SON |
| 77580/585A B/W Printer Paper (lg) | M2237A |
| 77580/585A Cleaning Sheet | 373486901-SON |
| 77580A/585A Door Assembly | X-3714-939-1SON |
| 77580A/585A Paper Shaft | 3-741-020-01SON |
| 77580A/585A Door Catch | 4-374-714-01SON |

### SUPPLIES

| | |
|---|---|
| Aquasonic gel 12 sm/1 lg bottle | 40483A/B |
| Bite Guard - Adult | M1828A |
| Blank Optical Disk (1X media, Qty 8) | C2588A |
| Blank optical disk (2X media, Qty 8) | C2588T |
| Blank optical disk (4X media, Qty 8) | C2588F |
| S-VHS SQ-T120 case | 13921B |
| TEE Sheath Kits (10) | 40487A/E |
| Ultrasound transmission gel (Eur.) | 40404A/B |

### CABLES

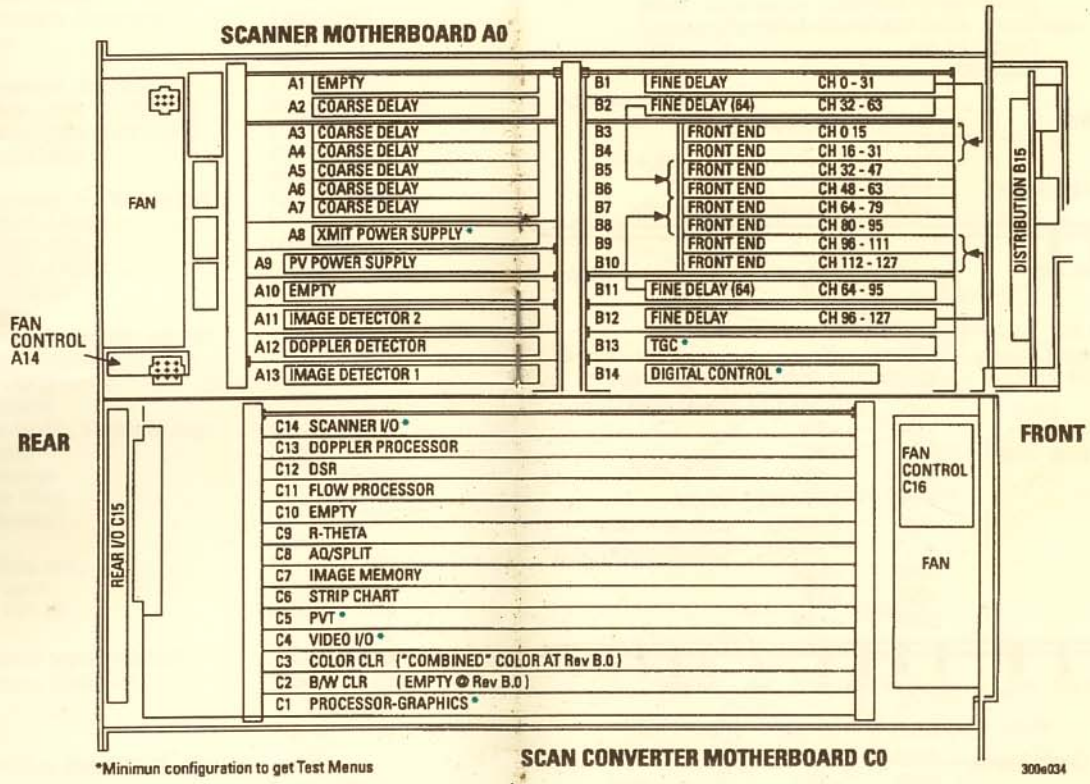
| | |
|---|---|
| RGB Monitor | 77921-64010 |
| RGB Internal | 77100-64103 |
| RGB Auxiliary | 77100-64102 |
| RGB Internal (to VCR bay) | 77960-64021 |
| Strip Chart | 77921-64290 |
| VCR (rear I/O to VCR) | 77921-64040 |
| VCR (main I/O to VCR) | 77921-64020 |

## MISCELLANEOUS PARTS

| | |
|---|---|
| Analog Ribbon Cable | 77100-64550 |
| Battery (Processor Graphics) | 1420-0349 |
| Battery cover | 1400-1712 |
| BNC Barrel | 1250-0080 |
| BNC to Miniphone, Adaptor | 77530-64010 |
| Circuit breaker, 10A (220/240V) | 3105-0302 |
| Circuit breaker, 20A (100/120V) | 3105-0258 |
| Digital Ribbon Cable | 77100-64560 |
| Filter kit | M2406-60007 |
| ECG cable (round) for TEE in OR | 77020-60300 |
| ECG cable (US-AAMI) | M1580A |
| ECG cable (IEC-INTL) | M1590A |
| ECG leads (US-AAMI) | M1603A |
| ECG leads (IEC-INTL) | M1613A |
| Fan for Imager | 3160-0571 |
| Keyprocessor quarter turn screws | 1390-1036 (new style) |
| LED (Qwerty, Function) | 1990-1682 |
| LED (TGC, LGC) | AY4553K |
| Qwerty keyboard | 77921-62350/1/2/4/5 |
| Static Wipes for EL Touch Screen | 9300-1741 |
| Storage Caddy | 77921-42440 |
| Tectrol exchange | 77101-68100 |
| TEE Adapter Plug | 77020-60315 |
| TEE Care Booklet | 21364-99740 |
| Trackball | 0950-1759 |
| Transistor plate assy | 77100-62250 |
| Transducer latch | 1252-4254 |
| Transducer RFI kit | 21200-80300 |
| Cart Wheel | 77921-87450 |
| Footswitch (new style, w/label) | 77921-62470 |
| Physio Interface Cable Kit | 77921-62480 |

## BLANK PANELS (GLACIER GRAY)

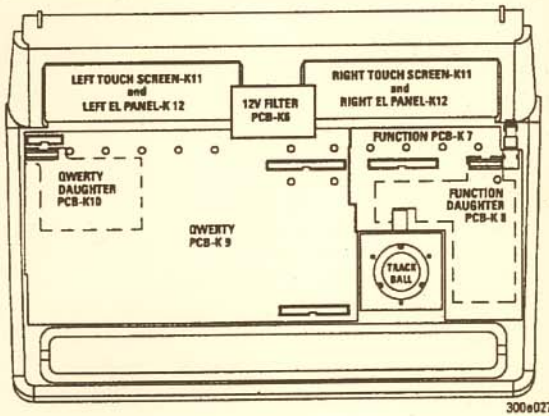
| | |
|---|---|
| Panel, 3.5 inch, height | 77921-07761 |
| Panel, 5.25 inch, height | 77921-07762 |
| Panel, 7 inch, height | 77921-07763 |
| Panel, 8.75 inch, height | 77921-07764 |
| Panel, 1.75 inch, height | 77921-07765 |
| Panel screw, glac. gray | 77921-22320 |


SCANNER MOTHERBOARD A0
A1 EMPTY
A2 COARSE DELAY
A3 COARSE DELAY
A4 COARSE DELAY
A5 COARSE DELAY
A6 COARSE DELAY
A7 COARSE DELAY
A8 XMIT POWER SUPPLY *
A9 PV POWER SUPPLY
A10 EMPTY
A11 IMAGE DETECTOR 2
A12 DOPPLER DETECTOR
A13 IMAGE DETECTOR 1
B1 FINE DELAY CH 0 - 31
B2 FINE DELAY (64) CH 32 - 63
B3 FRONT END CH 0 15
B4 FRONT END CH 16 - 31
B5 FRONT END CH 32 - 47
B6 FRONT END CH 48 - 63
B7 FRONT END CH 64 - 79
B8 FRONT END CH 80 - 95
B9 FRONT END CH 96 - 111
B10 FRONT END CH 112 - 127
B11 FINE DELAY (64) CH 64 - 95
B12 FINE DELAY CH 96 - 127
B13 TGC *
B14 DIGITAL CONTROL *
DISTRIBUTION B15
FAN
FAN CONTROL A14
REAR
FRONT
C14 SCANNER I/O *
C13 DOPPLER PROCESSOR
C12 DSR
C11 FLOW PROCESSOR
C10 EMPTY
C9 R-THETA
C8 AQ/SPLIT
C7 IMAGE MEMORY
C6 STRIP CHART
C5 PVT *
C4 VIDEO I/O *
C3 COLOR CLR ("COMBINED" COLOR AT Rev B.0)
C2 B/W CLR (EMPTY @ Rev B.0)
C1 PROCESSOR-GRAPHICS *
REAR I/O C15
FAN CONTROL C16
FAN
SCAN CONVERTER MOTHERBOARD C0
300e034

*Minimun configuration to get Test Menus

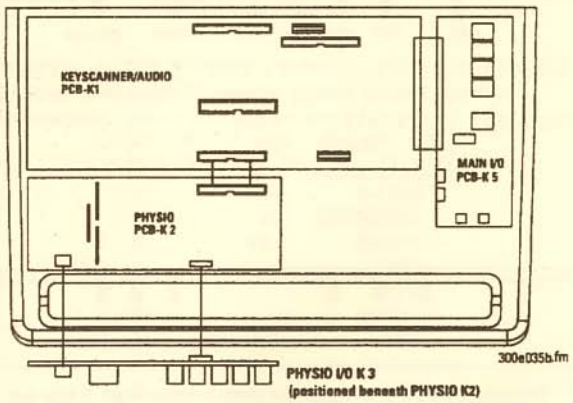
## KEYPROCESSOR BOARD LOCATIONS

**Boards on top section (from the top when closed)**


LEFT TOUCH SCREEN-K11 and LEFT EL PANEL-K 12
12V FILTER PCB-K6
RIGHT TOUCH SCREEN-K11 and RIGHT EL PANEL-K12
FUNCTION PCB-K 7
QWERTY DAUGHTER PCB-K10
QWERTY PCB-K 9
FUNCTION DAUGHTER PCB-K 8
TRACK BALL

300e027b

**Boards on bottom section**



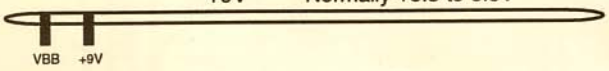

300e035b.fm

PHYSIO I/O K 3
(positioned beneath PHYSIO K2)

## IMAGER BOX TEST POINTS

**Note:** - Only one transducer connected: 2.5 MHz or 7.5 MHz.
- Mode: 2D (Doppler off, Color off)
- Depth: 24 cm
- Gain: 50

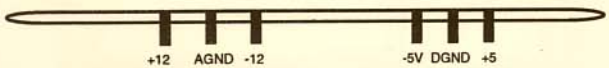
| Board | Label | Voltage* |
|---|---|---|
| Coarse Delays | +VBB | +3.5V |
| | +9V | Normally +8.3 to 8.5V |




| | | |
|---|---|---|
| Transmit Supply | AGND | 0V |
| | Q1C | 2.5MHz; –15V to – 160V** |
| | | 7.5MHz; –15V to –76V** |
| | VCC | +5V |
| | –5.2 | -5V |
| | +10V | +10V |
| | –13V | Normally –13.5V |
| | VH | 2.5MHz; –2.0V to –130V** |
| | | 7.5MHz; –2.0V to –57V** |
| | DRL | –13V |
| | +3A | +3V |
| | DRR | –13V |

| | | |
|---|---|---|
| PV / Omni Supply | GND | 0V |
| | VPP | +43V |
| | VDD | +10V |
| | VNNB | –140V |
| | VNNA | –140V |
| | PV-INT | +5V |
| | DIS-BIAS | –135V |

| | | |
|---|---|---|
| Video I/O | +12 | +12V |
| | AGND | 0V |
| | –12 | –12V |
| | –5 | –5V |
| | DGND | 0V |
| | +5 | +5V |

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* The voltages measured should be close to those listed. If they are significantly different, there is a power supply problem.

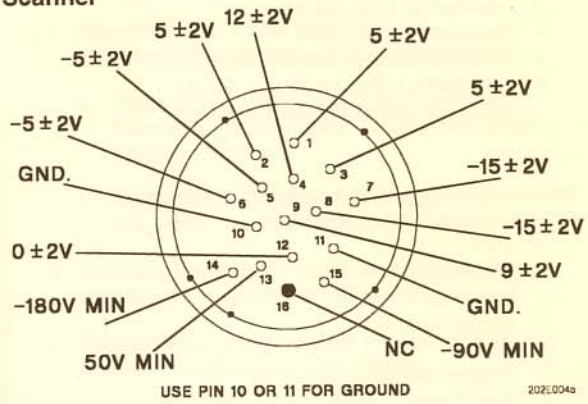
** Varying gain from 0 to 50.



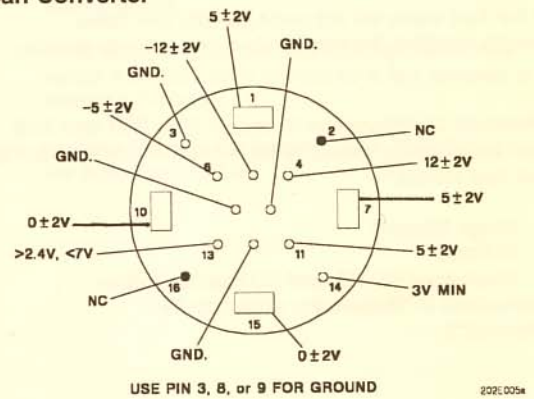
## POWER CABLE UNLOADED VOLTAGES

**Note:** - Disconnect all three power cables when testing either Scanner or Scan Converter cables.
- Disconnect the controller DC cable at the Main I/O (J9).

### Scanner




### Scan Converter




## POWER SUPPLY TEST CONNECTOR VOLTAGES

**Scanner and Scan Converter power cables must be connected.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |

| | |
|---|---|
| 1 | –180V |
| 2 | –90V |
| 3 | +50V |
| 4 | GND |
| 5 | +12V |
| 6 | +9V |
| 7 | –12V |
| 8 | No Connection |
| 9 | –5.3V |
| 10 | 0V (Scanner +5 return) |
| 11 | +5V (Scanner) |
| 12 | +5V (Scan Converter) |
| 13 | 0V (Scan Converter +5 return) |
| 14 | –15.2V |

## BOARD ISOLATION TECHNIQUES

### Reduce the system to 64 channels

Reducing the system to 64-channels will isolate the problems to one half of FE, FD, and CD boards.

- Remove all CDs: A2-A7
- Remove FDs: B1, B12
- Remove FEs: B3, B4, B9, B10
- Add 200ns CDs to slots A5, A6, A7 (Requires one additional kit board.)

### Minimum Configuration to get Test Menus

- Processor Graphics
- PVT
- Scanner I/O
- Video I/O
- Digital Control
- TGC
- Image Detector
- Xmit Power Supply
- Keyscanner

If the Test menu will not come up with only these boards installed, the problem is in one of these boards.

### Minimum Configuration to Image, Run RST and SAB

Add the following boards to the "Minimum Configuration to get Test Menus":

- Image Memory
- R-Theta
- 64-channel FE, FD, and CD boards. (Follow instructions in "Reduce the system to 64-channels").



### Stand Alone Basic

1. Power down system.
2. Remove transducers and lower bail.
3. Disconnect the cables which provide communications between the subsystems:
   - Digital ribbon cable (front cable) from the Scanner I/O to the Digital Control/TGC at the Scanner I/O end.
   - RS232 cable from the rear of the E-box, "Kp Serial", to the Main I/O at the E-box.
4. Move the Scanner I/O toggle switch to the front position (Scan Converter internal clock).
5. Put the Digital Control switch 5 in the Closed position to activate the LED display.
6. Power on the system. "SAB" should be displayed on each subsystem LED display briefly before the testing begins.
7. If the Scanner does not start running SAB, close switch 8 on the Digital Control for a few seconds to reset the Scanner.
8. Look for errors in the format "XXXX XXXX" on the subsystem LEDs.

## SYSTEM SWITCH SETTINGS

### Keyscanner board - 8 bank DIP at U222

| Switch # | Function | On / Off (Up/Down) |
|---|---|---|
| 1 | Not used | Off |
| 2-3 | **Factory** | On / **Off** |
| 4 | EL frame rate | 60Hz / **70Hz (Normal)** |
| 5 | Data line | Off |
| 6 | Factory mode | On / **Off** |
| 7-8 | Not used | Off |

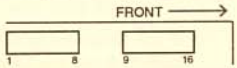
### Keyscanner board - 4 bank DIP at U138

| Switch # | Function | On/Off (Up/Down) |
|---|---|---|
| 1 | Reset Keyscanner | Reset / **Off** |
| 2 | Factory | On / **Off** |
| 3 | Flash Program | Program / **Off** |
| 4 | Factory | On / **Off** |

### Toggle switches

| Board | Function | Forward/Back |
|---|---|---|
| TGC | TV Format | PAL / NTSC |
| Scanner I/O | Clock | Scan Conv./ **Sys.** |

### Processor Graphics board




| Switch # | Function | On / Off (Up/Down) |
|---|---|---|
| 1 | TV Format | PAL / NTSC |
| 2 | **Factory** | On / **Off** |
| 3-5 | Not used | Off |
| 6 | **Factory** | On / **Off** |
| 7 | Flash Program | Program **/ Off** |
| 8 | **Factory** | On / **Off** |
| 9 | Not used | Off |
| 10 | **Factory** | On / **Off** |
| 11-16 | Not used | Off |

### Video I/O board

| Switch # | Function | Open/Closed (Down/Up) |
|---|---|---|
| 1 | Bkgrd level on tape | Grey / **Normal** |
| 2 | Loopback | Loopback **/Non-loop back** |
| 3 | Color Burst | Enabled / **Disabled** |
| 4 | Camera Port | **Color** / B/W (Normal) |
| 5 | RGB Aux Port chngd to Betacam | Betacam / **Normal** |
| 6 | RGB Aux Port chngd to Sync on Green | Sync on green / **Off** |
| 7 | RGB Aux video Levels | **.7Vp-p** / 1Vp-p (Normal) |
| 8 | RGB Int. Video Levels | **.7Vp-p** / 1Vp-p (Normal) |

### Digital Control board

| Switch # | Function | Open/Closed (Down/Up) |
|---|---|---|
| 1-3 | Factory | **On** / Off |
| 4 | Flash Program | **Normal** / Program |
| 5 | LED Display | **Normal** / LED* |
| 6-7 | Not Used | Off |
| 8 | Reset Scanner | **Normal** / Reset |

* Never image with 5 closed. Doppler tones may be generated.

**Bold** = Factory defaults



## PERIPHERAL SWITCH SETTINGS

**Kowa Recorder 77510A:**

Config: (Hold period key while applying power) P - 0 1 3

Errors:

- H: Thermal head overheated.
- PS: System speed set for 10 mm/sec.
- E: Test switch set for T on back of recorder.
- J: Paper jammed.
- UP: Thermal head positioned incorrectly.

**Sony Printer Color UP-5000 77550A/77555A :**

75 Ohms (Input): ON (no terminators); AGC: OFF

**Sony Printer Color UP 5200 77550B:**

75 Ohms (Input): ON Gain = +.5; AGC: Off

**Sony Printer Color UP-5600 77550C/77555C**

75 Ohms (Input): ON

**Sony Printer Color UP-3000 77530/535A:**

SW1 DIP switches: All OFF (down) except 4, 5 & 6 ON\
Brightness = Center position

**Sony Printer Color UP-1850 77530/535B:**

DIP switches: All OFF (down) except 3, 4, 5 & 6 ON
Gain = +2

**Sony Printer B/W UP-860/870 77560/565A:**

DIP switches: 1 OFF (up), all others ON
Gamma: middle.
Dadj (NTSC) or Densite (PAL): Middle

**Sony B/W Printer UP-890 77560B**

Back Panel Controls: All DIP switches down
Front Panel Controls:
- Contr. & Brt = detent
- Direction = STD
- Size = Normal

Gamma III for UPP-110 HA paper
Gamma II for UPP-110 HD paper
Paper type IV for UPP-110 HA
Paper type II for UPP-110 HD

**Sony Printer B/W UP-910 77580/585A:**

DIP switches: All OFF
75 ohms: ON

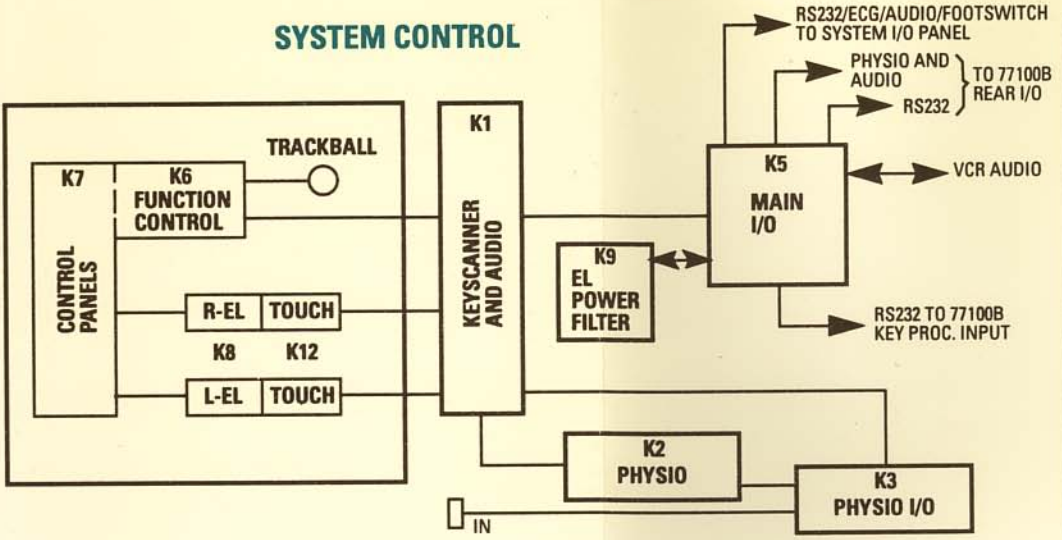
**Panasonic AG-MD830 VCR**

| | |
|---|---|
| Audio Out | Mix |
| Audio Out Meter | Norm |
| Input | S-Video |
| S-VHS | Auto |
| Menu | Off |
| Mode Lock | Off |
| VISS | Rec |
| Tape Select | E120 (NTSC),E180 (PAL) |
| Auto Back | On |
| Tape In Mode | Stop |
| Tape End Mode | Stop |
| Rec. Tape End | Stop |
| Standby Off Time | 30 min. |
| HiFi Rec | Off |
| Audio Dub | Ch2 |
| Edit | Off |
| YC Filter | Off |

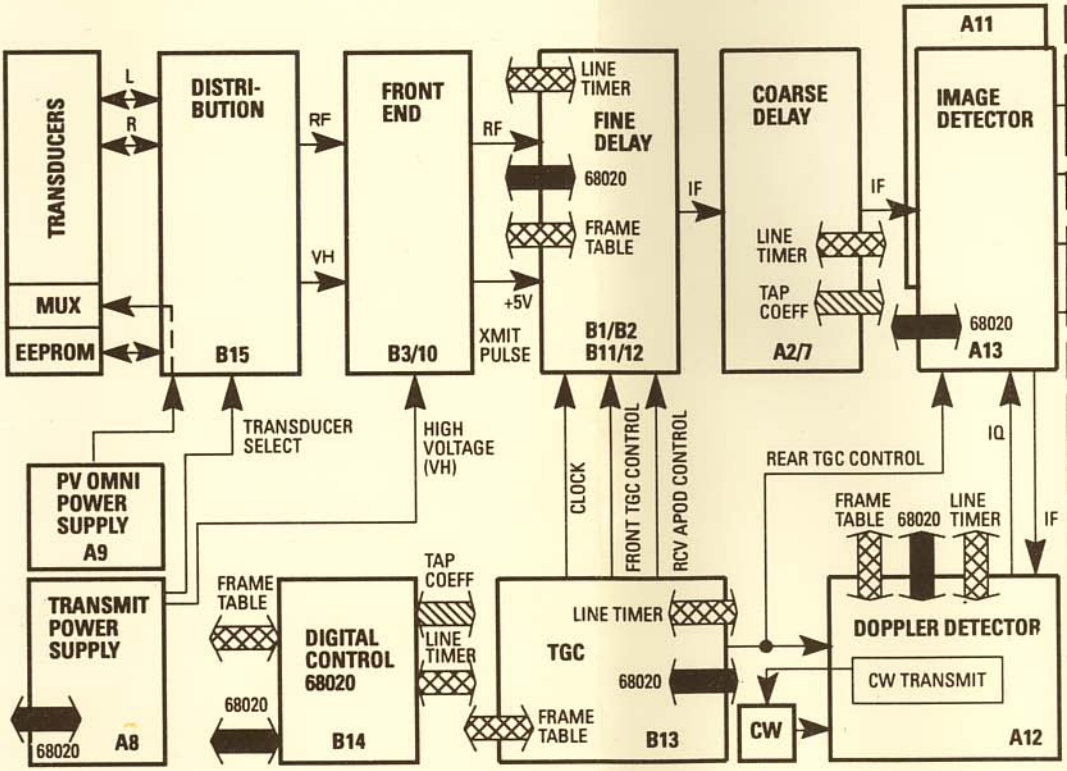
**Panasonic AG-7300/7330/7350 VCRs**

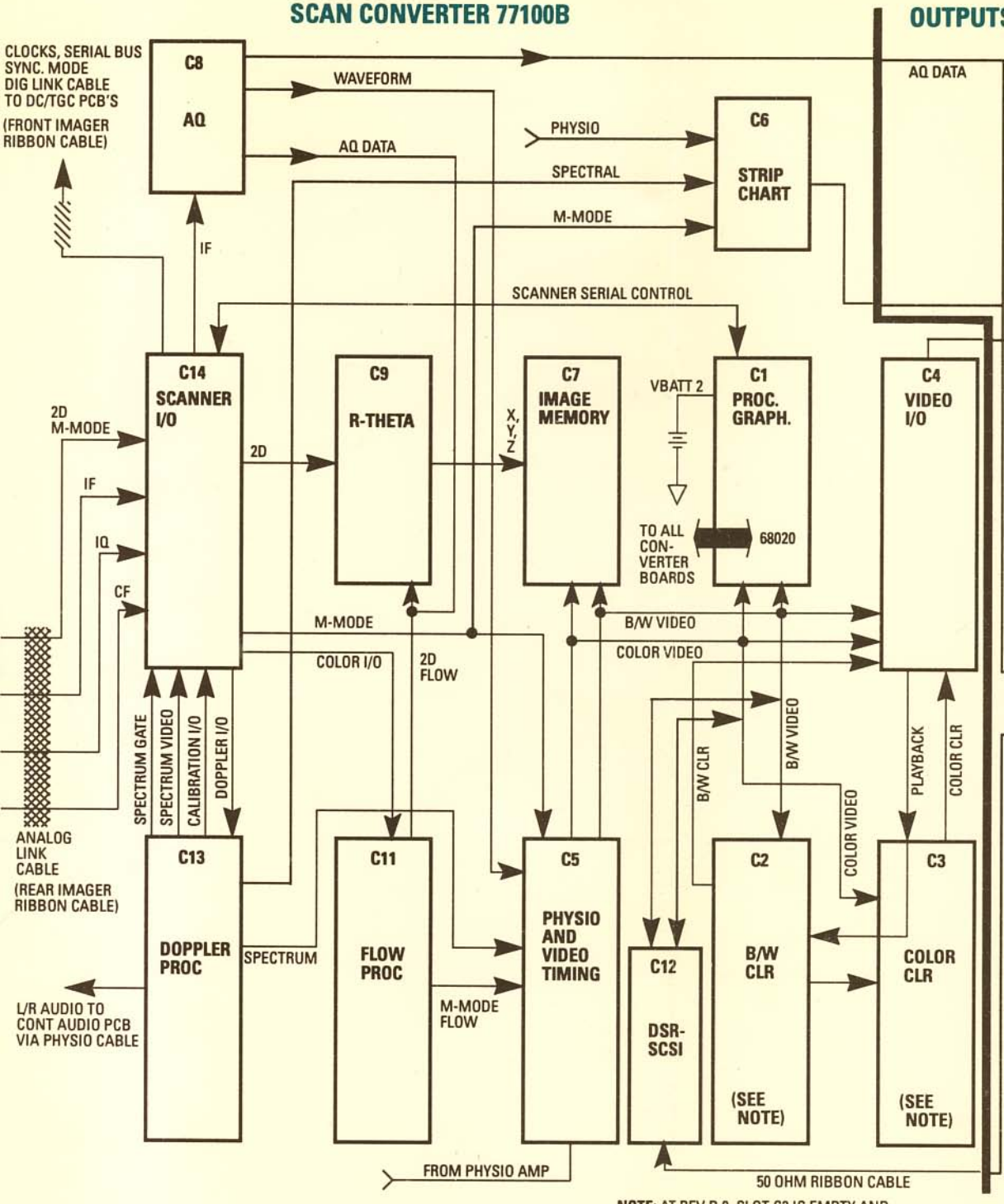
| | |
|---|---|
| YC Filter (Notch): | OFF |
| Controller Select: | 1 |
| Audio CH2 Select: | AUDIO |
| Mode Lock: | OFF |
| Auto Backspace: | ON |
| Video Sensor Rec: | OFF |
| CH2 Meter: | CH2 |
| Audio Limiter: | OFF |
| Input Select: | S-Video |
| S-VHS: | ON (or Auto) |
| Audio Dub: | CH1-CH2 |
| Audio monitor: | MIX |
| Dolby NR: | OFF |
| Video Mode: | AUTO |
| Tape Remain: | NORM |
| Edit: | OFF |
| Tracking, slow tracking: | Set to Detent |
| Picture: | Set to Mid-range |
| TV/VCR: | Any |
| Video Out Select: | NORM |
| Sync: | INT |
| Ext Timer Rec: | OFF |
| Audio Monitor Meter: | NORM |
| Audio Out: | NORM |
| Hi-Fi Rec: | OFF |
| TV System: | PAL or NTSC |

## SYSTEM CONTROL




## SCANNER 77100B






**NOTE:** AT REV B.0, SLOT C2 IS EMPTY AND THE B/W CLR FUNCTION IS COMBINED WITH C3

## OUTPUTS AND PERIPHERALS